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GENESEE FARMER.

SATURDAY, JANUARY 21, 1837.

Hay from Scotland.

An English paper says—"It forms a curious item of the agricultural commerce of this country, that we are now exporting hay to America. A vessel is about to sail with a cargo of 10,000 stone, of hay from Aberdeen, and a larger will follow from Clyde. The hay is pressed by the hydraulic press, and the bulk has been thus reduced for transportation."

The hay thus spoken of has reached this country and finds a quick sale of from 22 to 25 dollars a ton, principally at Boston. If Great Britain, with nearly three times as many horses, cattle and sheep, in proportion to its population, as is owned in the United States, is not only able to provide for their wants, but furnish large supplies of hay for exportation, it proves that England is far ahead of us in productive farming, and that we ought to mend our agriculture at once. It is the *cultivation of roots*, that enables English farmers to keep so many cattle, and spare us their surplus hay; and American farmers must follow the example, or fail of their profits and their success. It is surprising with what tenacity our farmers cling to old usages; and persist in mowing ten acres of land to get fifteen or twenty tons of hay, when two acres of roots will furnish more and far superior food. There is hardly a crop produced more certain than the ruta baga, unless attempted on soils decidedly unfavorable, and their excellence has been fully tested for feeding and fattening cattle and sheep; yet not one half our farmers can be induced to attempt the culture of the root. It is satisfactory to know, however, that the root culture is gaining ground; and that those who have tried the turnep, will not readily relinquish its use and benefits.

Winter Food for Sheep.

Every farmer is aware, that one of the chief difficulties in the raising and management of sheep consists in preserving them through winter, without disease or loss. Hence every fact or hint in relation to their winter management becomes of the first importance. It is indispensably necessary that sheep should be kept in good condition in order to prevent disease: and it is a secondary point, yet one to which much attention should be paid, to make use of the cheapest kinds of food.

With regard to the quantity and nature of food, it should be such as to keep them in a strong healthy state, and rather full of flesh, yet not partaking too much of *fatness*. This good condition, even if maintained at considerably greater immediate cost, will be found by far the most profitable in the end; for independently of the constant danger of loss by death, when sheep are ill kept, they shear much less wool, and the future progeny is much weaker, in consequence of such imperfect management.

One of the most necessary requisites to be observed is constant and regular feeding. Sudden changes, from scanty to plentiful food, are highly detrimental, as is also the reverse. Perhaps the only exception to this remark, is the case of ewes rearing lambs, which require better feeding than in ordinary times.

The *quality* of the food is a thing of much consequence, and the *quantity* must be adapted to the quality. It is satisfactorily ascertained, that hay alone, is not adapted to keeping sheep in the best condition. Still less is it if they are not allowed a constant supply of water. But the intermixture of roots, and particularly mangel wurtzel, is found to produce an excellent effect. A very successful manager of sheep, whenever he feeds any kind of roots, or grain, to them, first gives them a foddering of straw in order to fill them, as he does not consider the roots digest so well on an empty stomach. In order to be able to proportion the different kinds of roots, grain, &c. according to their nutritive qualities, it is necessary to know in what proportions those qualities exist in them respectively. The following table exhibits the results of the experiments of the distinguished agriculturist De Raumer, on the effects produced by an equal quantity of several substances in increasing the flesh, tallow, and wool of sheep.

	Increased the weight of the living animal.	Produced wool.	Produced tallow.
	lbs.	lbs.	lbs.
1000 lbs. potatoes, raw, with salt,	46¼	6¼	12½
do do without salt,	44	6¼	11⅓
do mangel wurtzel, raw,	38¼	5¼	6½
do wheat,	155	14	59½
do oats,	146	10	42½
do barley,	136	11½	60
do peas,	134	14½	41
do rye, with salt,	133	14	35
do do without salt,	90	12½	43
do meal, wet,	129	13½	17½
do buckwheat,	120	10	33
do good hay,	58	7½	13
do hay with straw, without other fodder	31	15½	6½

These results agree nearly with those of De Dombale, and with those of a number of other agriculturists.

It has also been ascertained by the experiments of some eminent agriculturists, that

1 lb. of oil cake is as nutritious as two pounds of hay.

200 lbs. of good sound straw of peas and vetches are equal to one hundred pounds of hay.

300 lbs. of barley and oat straw are equal to a hundred pounds of hay.

400 lbs. of wheat straw are equal to a hundred pound of hay.

It will be perceived by the above table, that *wheat* produces the greatest increase in the flesh of the living animal, though but little greater than *oats;* that *peas*, *wheat*, *rye*, and *hay mixed with straw*, produce the greatest increase of wool; and that *barley* and *wheat* causes the greatest increase of tallow. That, as an average, grain generally gives about three times the increase in the flesh, that roots and hay do, when in equal weight; that grain produces about twice as much wool as is caused by an equal weight of roots, and several times the amount of tallow, that is produced either by roots or hay. But as an equal weight of mangel wurtzel may be raised at an expense of less than one tenth of what is required for the production of most kinds of grain, the vastly superior economy of its use as food for sheep for every thing except fattening, will be at once perceived.

De Raumer found, that sheep ate with avidity eight pounds per head of mangel wurtzel a day, intermixed with straw; during which time they drank one quart of water, and remained in good and healthy condition.

That of raw sliced potatoes, they ate with good appetite at the rate of seven pounds per day, also with straw, and drank three pints of water in twenty-four hours. Also remained healthy.

That they ate two pounds of peas per head daily, drank from two to three quarts of water, and remained fine and healthy. It was necessary to soak the peas to prevent injury to their teeth.

That wheat produced nearly the same results as peas.

That they do not eat rye readily, and it appears not well adapted for their food.

That of oats and barley, they ate about two and a half pounds per head daily, with avidity, did extremely well on it, and drank about three quarts of water in twenty-four hours.

That buckwheat produced excellent effects upon them, which they eat with avidity.

And that of good hay they ate four and a half pounds daily, and drank from two and a half to three quarts of water.

As a large number of fine-wooled sheep have been introduced into the country within a few years, it is absolutely necessary, in order to render them most profitable, that they be well sheltered during winter. In those countries in Europe which are most famous for the growth of fine wool, strict attention is given to this subject, and sheep are not only sheltered in the night, but whenever the weather demands it during the day. It is said that on this depends in a great degree the fineness and quality of the wool. Sheds, at least, should always be provided for the most hardy breeds of sheep; much more so then, ought they to be for the more tender, fine-wooled varieties. Henry D. Grove, of Hoosick, Rensselaer county, who has been uncommonly successful in raising and wintering fine-wooled sheep, says that shelter against the inclemency of the weather, "is almost as necessary to the health and good condition of sheep, as food itself, and for this reason stables for that purpose are of great benefit. Not only do sheep do much better, but it is also a saving of fodder and manure. The latter is as important as the former; for manure, properly applied, is money to the farmer; and it is well known that sheep manure is of the best kind. These stables ought to be so constructed, as to admit of a great quantity of hay being put over head; and for this reason I would recommend a side hill facing the south, and a dry spot around it, for their location. Each full grown sheep requires six square feet including racks. These ought to be so constructed as to have a manger attached to each, for the purpose of feeding grain and roots, and to catch the hay the sheep draw through the racks. The stables ought to be eight feet high at least, nine feet is preferable, and sufficiently ventilated. It is also necessary to have windows for the purpose of light. The difference between wool grown in a dark and light stable, is really surprising. In a dark one wool does not get the brightness it has in a light one. Of this fact I have witnessed the most surprising proof. Over head the stable ought to be tight, that no fodder, chaff, &c. may fall into the wool, which reduces its value. The stables ought to be littered with straw from time to time, to keep the wool clean and add to the comfort and health of the animals."

We conclude these observations with the remarks, relative to the importance of water and succulent food to sheep during winter, of J. Barney, Esq. of Philadelphia, whose experience and skill on this subject are well kuown. To a gentleman who visited him, he showed from fifty ewes, upwards of sixty lambs, all lively and brisk, with a loss of perhaps three or four. The gentleman observed to him that he had his shed covered with dead lambs, and asked wherein the secret of breeding lay. He answered, "you stuff your sheep with dry food?" "Yes as much good clover and hay as they will eat," was the reply. "You give them no water, but suffer them to go out in time of snow and eat it as they are disposed to do?"—"Yes." "Then there lies the secret. Your sheep fill themselves with hay; they get no water; and they have not a supply of gastric juice to promote the digestion of the hay in the stomach; they cannot raise it to chew the cud; they lose their appetite; are thrown into a fever; and cannot bring forth their young; or they bring forth a feeble, starved lamb that falls off and dies on the first exposure to the cold and rain. On the contrary I take care to provide my sheep with good clear water in summer and winter. I feed them regularly with hay through

the winter and give them ruta baga and mangel wurtzel every day. The ewes produce me *one hundred and twenty per cent in lambs.* You cannot get along without ruta baga and mangel wurtzel."*

Consumption of Grain.

Few individuals are aware of the immense amount of grain required for a nation's consumption; or the average annual production of the grains tha t are used for the purpose of making bread. It must be evident at a glance, that all calculations on this matter can be regarded as nothing more than mere approximations to correctness; but even this may show us the folly of supposing, that in case of any considerable failure of our crops, the importation of a few ship loads of wheat from abroad, can have any considerable effect in supplying the deficiency, or preventing the utmost necessity of prudence and economy at home. During long discussions which have taken place in England on the subject of the corn laws, the necessary quantity of grain required to find an individual with bread, has been rigorously investigated, and it has been estimated, that the average consumption, including young and old, would be about five bushels to a person. Admitting the grain used was all wheat, this estimate we think would be rather too liberal; including corn and rye, it probably would not be found far from the truth; and some little inquiry has convinced us that this amount may be safely taken as the basis for a few calculations.

The population of the United States may be put at fourteen millions; to supply this number with bread would require seventy millions of bushels, if wheat was used; if corn or rye is substituted, a greater allowance must be made. If we take the population of this state, about eleven millions of wheat would be required for our consumption. A late writer in a southern journal has estimated the average annual production of grain in the United States as follows:

Indian Corn,	100,000,000
Wheat,	50,000,000
Rye,	20,000,000
Oats,	20,000,000
Barley,	1,250,000

We are inclined to think these amounts, with the exception of corn and rye, quite too low. The quantity of oats is unquestionably much greater; and the barley is wholly underrated. New-York alone produces double the quantity named, and one county in the Western district, (Onondaga) in 1835, carried to market nearly or quite one half that amount. Perhaps one half of the corn, the most of the wheat, and half or three-fourths of the rye is used for bread, the remainder of the rye, with a large part of the corn is manufactured into whiskey; and the barley principally goes to the breweries. The oats, with the corn not required for bread or whiskey goes as feed for horses, and fattening pork. In New-York and the New-England states the corn crop of the present year will not equal one half the average crop in the same territory; and the whole wheat crop of the United States will be deficient at least one third. The resources of the country for bread will therefore stand nearly as follows, allowing the corn crop of the present year to equal three-fourths the usual average:

Corn,	37,500,000
Wheat,	37 500,000
Rye,	10,000,000

making a total of grain suitable for bread, of 85,000 000 of bushels; being fifteen millions more than would be required to supply the nation with bread for one year. Could the grain, therefore, at present in the country be distributed among the population in an equal ratio, or as required by their wants, the idea of scarcity or suffering in consequence of the partial failure of the crops would be ridiculous; but such distribution cannot be made, and the experience of former years of plenty is sufficient to convince the observer that the poverty, the idleness, the inattention, the improvident and vicious habits, of so many of the people, will this year be severely punished by the difficulties of obtaining the necessaries of life. But wheat, corn and rye, do not constitute all the sources of bread which are open to the people of the United States.

* Baltimore Farmer.

Buckwheat, of which millions of bushels are annually raised, when properly prepared and cooked, forms one of the most agreeable and wholesome substitutes for wheat bread, to be found in the vegetable kingdom. A large proportion of the English, in the western counties of that kingdom, use barley for bread; and in Scotland the use of oatmeal is proverbial. Both these substances as bread are unknown among us, but there can be little real suffering oppreended, so long as materials for bread, so nutritious as the experience of England and Scotland prove barley and oatmeal to be, exist in profusion in the country. It is somewhat curious to notice the advance made in the culture of wheat in Great Britain. At the period of the Revolution, or in 1690, the wheat grown was estimated at fourteen millions, and barley at twenty-seven millions of bushels. In 1830 the produce of wheat had advanced to one hundred millions, and that of barley to thirty five millions; yet notwithstanding this immense production of grain, owing in a great measnre to the unnatural state of things produced by their system of corn laws, there is more real suffering for the want of bread in Great Britain and Ireland, than in any other part of Europe.

One of the greatest blessings of free trade, or the extensive system of commercial exchange which is going on in the world, is the general distribution and equalization of the prices of grain which it is the means of effecting. Wherever there is a surplus it is sure to find its way to those countries where a partial or temporary scarcity exists; and the low prices of one country, or one section of a country, are corrected by the higher prices of the country where that surplus of grain is required. The famines which in former days used to desolate whole countries, can have no existence at the present day, while the means of distribution and supply, remain in their present perfect and active form; for owing to a wise ordinance of Providence, a universal scarcity of food was never yet known—the failure is only partial. In the U. States, for instance, were the means of communication as imperfect as they once were; the region east of the Alleghany mountains might be suffering the distresses of famine, while the valley of the Mississippi was filled to overflowing with bread; the difficulties of transportation would render any relief which might be afforded, of the most limited kind. Now, the Atlantic states might "go to mill" to Ohio or Indiana, as the New-England states do to New-York, and hardly feel any inconvenience from the delay, or any danger of failure in the supply. So if prices in the U. S. make the importation of grain an object, or the failure of a home supply renders it necessary; the commercial man is ready to take advantage of the circumstance, and the shores of the Mediterranean, the Baltic or the Black sea are laid under contribution to equalize the demand and the supply. His profits arise from the difference in the prices at the two places.

In making our statements of the quantity of grain required for consumption in this country, we must not forget that there are two or three millions of people in the West Indies and South America, as much dependent on us for bread as are our own citizens. Their flour they receive from us, and from us they must receive it, no matter how extravagant prices should become. Grain, the West-Indies might import from abroad, but they have no flouring mills, and wheat unground, for the purpose of sustenance, is far inferior to corn or rice. Our exports to those coontries amount to seven or eight hundred thousand barrels, and when we add to this the 100,000 barrels required for our manufactures of cotton, &c. we see that we must make a deduction from the wheat consumed in this country of about a million of barrels, or five millions of bushels. Notwithstanding wheat can be delivered at New York and Baltimore at a less freight from Hamburg, Dantzic, Naples or Odessa, than from Ohio, it is not probable that the supply from abroad will reach one half the amount required for the West Indies and our manufactories, and consequently will touch but in a very slight degree the consumption or prices of wheat in this country.

☞ List of Payments next week.

Judge Buel, in his Agticultural Report for 1836, has the following notices:

The Hessian Fly.

The best preventives against hte depredation of the *Hessian fly*, seems to be, good soil and good culture, which shall ensure vigorus growth,—and sowing after autumnal frost, by which the young wheat is believed to escape the fly in the fall. Some experiments, recorded in the third volume of the New-York Board of Agriculture, and elswhere, of sowing caustic lime upon the grain in the spring of the year, seem to encourage the idea that it saves the crop, at least partially, from the fly: but these will hardly justify us in pronouncing the remedy efficient. It is worthy of further trial; ana we should like to be advised of any results that may strengthen the probability of success.

The Grain Worm.

The *grain worm* is yet unknown in the south, and but partially known in the west. In this vicinity it has been far more formidable than the Hessian fly. It has greatly diminished the culture of the wheat crop among us and csused a serious diminution in the product of the little sown. The insect abides in its destructive state but a short time; and the observations which have been made upon its habits give weight to the conjecture, that wheat sown early in the autum, or late in the spring, will be most likely to escape its ravages;—the grain of the first becoming hard before the fly makes its appearance and the late spring-sown not comming into bloom until the insect has assumed its chrysalis form.

The Cut Worm.

The *cut worm* has been universally destructive, not only to corn and other grain, but to grasses and garden crops. The heavy snows, by protecting them from the severity of the winter, probably tended to increase the ravages of both the cut worm and the fly. Lime and ashes seem to afford the best remedy against the cut worm, applied in the ground with the seed, or what we would prefer, at the surface of the ground above it. We have recorded several instances of these proving efficacious. In May we transplanted a hundred seedling Dahlias, and a number of cabbages into our garden. The first night, ten or a dozen of the dahlias, and a number of the cabbages were eaten off at the surface of the ground by the grub. We immediately covered the surface of the ground with powdered lime, and lost no more plants save a couple, and round the stem of these the lime did not happen to be spread. The worm attacks the plant at or near the surface of the ground. The alkali not only presents a barrier at this point but the soil underneath becomes saturated with it and destroys or drives them away. We think there is reason in the remark of a correspondent in our last number that if the worm can feed upon succulent grass, under the surface, it will not care to come above the surface to destroy the young corn, and that planting upon a fresh ploughed clover ley is a pretty sure way of escaping their depredations. We have often planted upon such a ley, without experiencing any injury from the grub; but we do not remember to have planted on an old sward, turned over the previous fall or summer, without having suffered severely from them.

Castor Oil Plant.

The following extracts from the report of Professor Ducatel's Survey of Maryland, gives the process of cultivating this valuable plant, and some directionsfor expressing the oil.

The culture of the *palma christi* presents no difficulty. It is said to thrive best in good corn lands, yielding, according to the quality of the soil, from twenty-five to forty bushels per acre. The land requires the same preparation as for corn; and the bean is planted like this grain—in hills on which two or three plants are suffered to grow; the subsequent tillage being also the same as that practised for corn. The most tedious part of the management of this crop is the gathering of the fruit, which forms a cluster with a pyrimidal termination; the lower portion being occupied by the male flowers that yield no seed, and the upper by the female flowers. In the female flowers, the ovary, which is roundish and forked at the apex.—The fruit properly speaking,

three-sided, supports three linear redish stigmas, is a round capsule, with three projecting sides, covered with rough spines, and divided into three cells, each containing one seed. The flowers appear in July, and the seed ripens throughout August and September,—If suffered to do so on the plant the capsule bursts with considerable force projecting the seed at a distace, and scattering it about the field. To avoid this is the only extra attention required by this growth, and this is done by anticipating the maturity of the fruit. The directions are—to visit the plantation a litle before the commencement of the ripening season removiug those clusters that aproach to maturity, (which is known by a change of colour from grayish green to a light pea green,) and conveying them to the drying ground, where, by the effect of the sun's heat, they burst, and dislodge their seed. The only preparation of the drying ground is to provide a small place, cleaned and levelled as for a threshing floor, upon which the clusters are scattered. It would be advisable to locate this spot in the neighborhood of the barn, or near a shed, so as to faciliate the removal of the plants, in the case of protracted wet weather, to some shelterd situation. Transient showers of rain do not, however, damage it otherwise than by blackening the seed, whereby the sale might be injured, although it does not diminshed its productiveness in oil. The occupation of gathering having once commenced, it should be so arranged as to visit each plant twice a week, morning and evening, until the whole crop has been secured.—It may then be sent to market, where, at the time of writing this Report, it commands three dollars per bushel: or, it may be made to yield its oil by the following process, as practised in Northampton county, Virginia.

"The seeds are first to be throughly cleansed of dust and of portions of the capsule that may have adhered to them. They are then introduced into shallow iron drawers, arranged on both sides of a furnace, where they are exposed to a gentle heat;—the object of the first operation being to render the oil more easy of expression. From these drawers they are conveyed into a powerful screw press, by the opperation of which the oil is obtained. So far, however, the oil is impure, and must be transferred to clean iron boilers previously supplied with water. As the boiling proceeds the impurities that rise to the surface are skimmed off, and the clear purified oil finally makes its appearance floating on the water. It is now carfully removed, and a second time subjected to the boiling process, with a very small quantity of water, until the latter liquid has been entirely dissipated. This is ascertained by taking out a small quantity into a vial, observing whether it preserves its transparency as it cools. Some care is required not to push the heat too far as then the oil would acquire a brownish hue and a hot peppery taste, which would at all events unfit it for use as a medicine. One bushel of seeds yield about one gallon and three quaters of oil, at an expense of about 25 cents a bushel, which is refunded by the sale of the *pumice*, found to be excellent manure for corn crops. Acknowledgments are due to Mr. Smith of Northampton county, Va, an intelligent and experienced planter of palma christi, and manufacturer of castor oil, in the vicinity of Eastville, for information contained in the above paragraph."

From the Cultivator.

Systematic Farming—Under Draining—Ruta Baga.

Judge Buel—*Dear Sir*—When I had the pleasure of seeing you at Albany, you requested me to give you some account of my farming operations, and particulary in relation to underdraining, and the culture of the ruta baga. The short time I have been engaged in agricultural pursuits, and the little practical knowledge I have obtained, will necessarily render any communication from me at this time, comparatively of little interest—yet such as I can give, is at your service. My farm contains 400 acres of upland, and consists of several varieties of soil, but mostly a deep gravelly loam upon a very tenacious clayey sub-soil. I came in possession of this farm, and first turned my attention to agriculture in the spring of 1835.—None of the land had been half tilled, and some of it had been cropped so long without being manured, that nature had rebelled against the thankless task-master, and refused to produce any thing worth the husbandman's notice. I commenced a through and uniform system of improvement, by ditching, seeding, and manuring,—dispensing my favors with an unsparing hand, and without other regard to the expence, than noting the amount in my journal. The consequence has been, I have brought lands that did not produce enough to pay the expense of cultivation, to a state of beauty and fertility, and obtain a rich reward for my labor. And what is worthy the attention of those farmers, who say they cannot afford the expence of improving their lands, is this fact, that the increased product of a single year has more than paid the whole cost. As a specimen, I will give an account of a lot of 14 acres, which had been mowed successively for near 30 years, and the year before it came into my possesion, cut but six tons. One third of the field was too wet to grow any thing but swamp grass, and its improvement was mainly brought about by under draining.

My account with this lot for the years 1835-6, stands thus.

Dr.	*Lot No. 3—14 Acres.*	*Cr.*
1835, April 20—100 rods under-drain *a* 4s.	$50 00	1885, July 20—30 tons pretty good hay *a* $10	$300 00
6 ds. drawing stone, 16s.	12 00		
600 loads manure *a* 3s.	112 00		
1-2 ton plaster *a* $8,	4 00		
Grass seed,	10 00		
July 20—Getting in hay,	31 50		
Interest on land,	49 00		
To balance,	31 00		
	$300 00	Profit,	31 00
1833, March 17—50 lds. manure *a* 3s.	18 75	1836, Aug 2—45 tons superior hay *a* $12,	420 00
Grass seed,	2 50		
Aug. 2—Getting hay,	37 50		
Interest on land,	49 00		
To balance,	343 25		$451 00
	$151 00	Profit,	343 25

Contrast this with the product of 1834.

Labor getting hay, say	$20 00
Interest on land,	49 00
	$69 00
Credit by 6 tons inferior hay, say $8,	48 00
Actual loss,	$21 00

The same result has followed all my efforts to improve my fields, and I am fully persuaded, that no amount of labor or money, can be expended in the cultivation of the soil, that will not return four to the granary, or the store house. Yet these facts are lost upon the mass of farmers, already too wise to learn—who are contented with obtianing from their lands, one third the quantity they are capable of producing—apparently contented too, to deprive themselves of the comforts, luxuries, and rural embellishments, that make a home pleasant, and life a blessing; and continue to jog on in the path their fathers trod, turning neither to the right hand nor the left, though the bright goddess, Plenty, with happiness and honor in her train, invites them at every step.

I would recommend under-draining to the serious attention of every farmer. Without it the richest part of my farm would be unproductive, and I have observed many a fine field, not only lying useless, but disfigured by cat-tails rank weeds, &c., which a few dollars expended in judicious draining, would make the most profitable and ornamental part of the farm. In making drains, I have dug a ditch 3½ feet deep and two feet wide and filled half full with round stones, taking care to leave a number of places for the water to pass, or else placing large stones upon each side and laying a flat stone across, leaving but one passage for the water, and fill up with earth. Both kinds appear to answer well, but I prefer the first, as by dividing the water into several streams there is less fear of undermining.

My crop of ruta bagas has not been so large as some I have seen noticed in the agricultural papers, yet it has been extremely profitable, and as food for stock, has far exceeded my expectation. I have no doubt from what I have observed that it is worth half as much as corn for fattening, and for milch cows and sheep, I know of no article of food that will compare with it. By the aid of the drill barrow and cultivator, the cost of rasing, per acre, is certainly not so much as corn, while the product is about twenty times as much. I sowed the present year 2½ acres, the 20th June. The ground was laid in gentle ridges 2 feet apart, and the plants when thinned out stood 10 inches from each other in the rows. I think 1 foot by 2½ would have been better. At harvesting I measured off 12 square rods, and found the product to be 100 bushels, which would give 1,333⅓ bushels per acre. My average crop fell considerably short of this, owing to early drouth and the insects; yet this shows what may be raised under favorable circumstances.

I cannot close this communication without urging upon every man who tills an acre, of ground, the importance of taking an agricultural journal. It has been of incalculable benefit to me and much of my success in farming is to be attributed to the knowledge I have obtained from the pages of the Cultivator,

Yours, with respect,
L. Chandler Ball.

Hoosick Falls, Rensselaer County.

The Apple Orchard.

For the family, apples may be made to contribute alike to health, to pleasure, and to economy, and greatly to diminish the consumption of more costly food. As desert fruits, they are surpassed but by few in durability; while in the culinary department, they afford a grateful repast, baked, boiled, roasted or fried, and, to borrow terms from the Cook's book, may be served up, with rice, flour, &c. in black-cap, charlotte, cheese-cakes, compotes, dumplings, fritters, festoons, floating islands, fool, flaze, glazed in jelly, marmalade, pancakes, pies puddings preserves poupeton, soufflet, in water, and a la Turque. In all these forms, we believe the apple is perfectly guileless; and in most of them may be iudulged in by the robust and the delicate, and by rich and poor.

In the economy of the farm, apples are no less serviceable.—Every kind of farm stock feeds and fattens upon them. They serve as a substitute for corn in the piggery, for oats in the horse stable, and for slop in the cow-stall. They were evidently destined for the comfort of man: and because they are capable of being converted to a bad use, shall we for this reason, reject the many benifits they are calculated to afford us? Because bread-corn is convertiable into alcohol, is it less worthy of our care and culture as an article of food? Those alone who *abuse* the gift of Providence, are obnoxious to public morals.

Our orchard, although a young one, is of great value to us. The early droppings of fruit were gathered by our pigs, and they contributed much to fit them for the fatting pen; and subsequently by boiling them with small potatoes, for fattening hogs, they have ennabled us to save a good proportion of our soft corn, which in ordinary years has not sufficed for finishing our pork, say 40 or 50 bushels, to deal out to our store shoats. Our orchard has ennabled us to dispose of some fifty barrels of choice winter fruit, and to manufacture nearly as many barrels of cider, and it is now, in the form of apple *pomace* adding greatly to the products of our dairy. On the first of December, we began to feed the pomace to seven milch cows, and have continued to feed them with a common wheel-barrow full per diem, and the effect has been *to increase the quantity of milk nearly fifty per cent.* The pomace has not undergone but slight if any fermentation.

The great indifference to orchards, we have no dought, arise from an ignorance of the many advantages which they are capable of affording to the farm, and the bad quality of which is generlly cultivated. The nutritive properties of the apple depend upon the quantity of saccharine matter they contain, or the specifie gravity of their juice: and the differcnce in flavor, and in their cooking properties, are not sufficiently regarded, and not general-known. We have probably the finest varieties of this fruit, of any country in the world, which come to maturity in succession, so as to afford a supply for the family the whole year; and yet probaly not one family in a thousand enjoy them; or know of the existence of the better half.—*Cultivator.*

Rice Pudding.—If you want a common rice pudding to retain its flavor, do not soak it or put it in to boil when the water is cold. Wash it, tie it in a bag, leave plenty of room for it to swell, throw it in when the water boils, and let it boil about an hour an a half.

COMMUNICATIONS.

Raising Wheat on Summer Fallows.

Mr. Tucker—For the last twenty years I have devoted a considerable portion of my farm to the cultivation of wheat by summer fallowing. I do not know as this is the best way, and from some articles I have read in your paper some months since, I am led to think it is not the most approved method; still my own experience has led me to think it profitable in the way I have pursued it. My way is to have a crop every other year, and pasture with sheep during the intermissions, and I find my land growing more productive. When I commenced, the average crops were 15 to 20 bushels per acre; now they are 20 to 25. In 1833, I obtained from 60 acres a trifle over 1500 bushels, as ascertained from looking over the receipts of the purchaser, at one dollar a bushel—1500 dollars: Expense of tillage, harvesting and threshing, estimated at 480 dollars, leaving 1020 dollars. Deduct 84 dollars, interest of land at the price originally paid, leaving 936 dollars profit. The product of this particular year is mentioned, not because larger than usual, but because the amount was actually known. The present year, however, the crop was not so good, averaging only about twenty bushels per acre; but this was not owing to any deficiency in the soil, but to the snows of the last winter and the unfavorableness of the season. Perhaps I ought to mention that new land, managed in this way will run down. For a few of the first years, land should be plonghed but seldom. Seed down and pasture. If the grass runs out, plough for one crop, and seed down again. After land has been cleared eight or ten years, it may be ploughed as described above, and with the same result, for an indefinite number of years; but though it will improve in fertility so far as wheat and grass are concerned, I find it will not produce corn so well till it has been manured or seeded down. This is not because the land is reduced, but it becomes too hard for the roots to spread and penetrate sufficiently to obtain their appropriate nourishment. The method here described was adopted to accomplish a specific object, which required a considerable amount of money to be raised annually, and for this purpose I think it well adapted.

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On the Culture of Root Crops.

While writing this, your paper of the 10th instant came to hand containing an article, (editorial, I conclude,) furnishing an exhibit or statement of what can be done by cultivating twenty acres of land to corn, hay, potatos, ruta baga, and mangel wurtzel, founded on experiment, as all similar statements should be. No doubt the specified amount of produce may be obtained on the appropriate soils, with proper culture, in favorable seasons; still I apprehend the results to which you arrive will not be realized to their full extent in the present state of things in this section of country, So far as the cultivation of corn and hay are concerned, perhaps they may be; but the cultivation of roots to the extent or in the proportion there contemplated, it appears to me would not be profitable at present, as there would be no market in which they might be turned into money, even at the low prices affixed to them, and also because there is not stock sufficient to require that amount for the purpose of feeding, and probably it would not be profitable to keep that amount of stock which would require it at present. I know of no stock that can profitably be raised for the purpose of selling, except sheep Other kinds of animals are necessary and profitable so far as they are needed for the purposes of farming or furnishing provisions, and no further. The time will probably come when the cultivation of roots will be profitable to a much greater extent than now, and when the obtaining of the greatest possible amount of produce, from the smallest quantity of land will be much more important and profitable than it is now; but while there is abundance of land, and but few hands to cultivate it, a wider range in farming may be allowable than in different circumstances; besides most farmers in this section of country have been, and many still are, in a situation which requires them to cultivate those kinds of produce which are the most valuable and most readily converted into money. It will be the safest way for a man who wants a thousand dollars, and has no other resources than the product of his farm, to cultivate forty or fifty acres to wheat, because wheat always commands money.

It may be said the culture of roots, producing a vast amount of food at a trifling expense, will render the feeding of stock profitable. It may have a tendency to do this, to some extent, by diminishing the expense of feeding; but this will not create a demand for provisions. This demand will be in proportion to the denseness of the population, making some allowance for the different dispositions, pursuits, occupations and mode of living which may prevail at different times and places. Thus, for instance, in manufacturing districts, agricultural productions will be in greater demand and bear higher prices, than in those communities where the great majority of the inhabitants follow agricultural pursuits, and each one furnishes their own provisions; and although the population of our country is rapidly increasing, yet such is the wide extent of our domain, that it will not become very dense for a considerable length of time except in particular locations, and these only to a limited extent. These things are not said with a view to discourage the cultivation of roots, but rather to invite discussion, by calling the attention of farmers to the subject. I am happy that the editor has introduced it I intended to have said something on it if no one else had. I think it an excellent method of enriching land and fitting it for other crops, and in the immediate vicinity of Rochester and other cities and populous villages, I presume it might now be pursued to advantage. An Old Farmer.

December, 1836.

On the Culture of the White Mulberry.

Mr. Tucker—The profitable results that accrued to those who were engaged in the culture of silk, in different parts of the United States, fully and sufficiently satisfied me that the soil and climate were well adapted to the growth of the Mulberry, and that the raising of silk would yet become an important branch of our agriculture. This held forth sufficient inducement, and last spring I accordingly made a beginning. I sowed 1½oz. of the white Italian Mulberry seed, which produced about 5000 plants, I sowed my seed in four beds; the first the 12th, and the second the 26th of May; the third the 12th of June, and the fourth the 10th of July. The first and second beds lay side by side, were prepared in the same manner and received the same quality and quantity of seed, with this difference—the first was *not* and the second was soaked. The first bed produced 1000, and the second 100 plants. The difference I attributed to the soaking of the seed, which was done according to the directions of the "Silk Culturist," "soaked twenty-four hours in water about blood warm." One of our neighbors soaked a part of his seed, which had the same effect. Perhaps others prefer soaking their seed and have been successful in so doing; but I am of the opinion that the better way is to sow it without, as the seed that was *not* soaked germinated *sooner*, and the plants were much more thrifty. The third and fourth beds, in proportion to their size, produced about the same number of plants as the first, all of which grew very thriftily from eight to sixteen inches in height. The main stems and branches were considerably firm and ligneous, so much so, that I thought they would need no covering to protect them from the severity of the winter.

Perhaps it would not be amiss to mention what I consider the best method of rearing the trees, as far as what little experience I have had, has extended. I am pretty well satisfied that the best time for sowing the seed is from the 10th to the 20th of May. I think it best to sow the seed *early*, in order that the plants may have more time to gain strength, the stems to become firm and wooded, to enable them to stand the first winter. The seed should be sown in drills 12 or 14 inches apart, in rich, mellow ground. I covered my seed with *black loam*, pulverized to the depth of half an inch, and hardened the surface by laying a piece of narrow board on the first row, after I had covered it, standing on it until I had covered the next, and so on. As soon as the plants are sufficiently above the surface of the ground to distinguish them from the weeds, every weed should be extirpated, which at first requires considerable attention, as most weeds vegetate much faster than the mulberry. It is also very important to stir the ground between the rows, every two or three days. It keeps the soil moist and loose, and forwards the growth very much. Therefore keep the bed clear of weeds, and the soil loose, and the whole story is told.

I should, however, mention, that I had to contend with two depredators, which threatened destruction to a considerable share of my plants. The last seed that I sowed, (10th of July,) germinated very soon, and the plants grew very rapidly to the second leaf, when a small black insect (about tne size of a *flea*,) which I took to be the one so destructive to the ruta baga, cabbage, onion, &c. commenced its ravages. They cut off the stem of the plant, near the surface of the ground. They had been at work two or three days before I discovered their depredations, when about one tenth part were eaten off. I made a decoction of soap suds and elder leaves, and wet them pretty freely with it, which proved a perfect remedy. The other depredator was the wire worm. They confined their ravages to the bed sown the 12th of June. Hundreds of the plants were destroyed before I ascertained that it was the wire worm. They eat off the root one and two inches below the surface. The only way I found to counteract their depredations, was by digging with my fingers around the roots of the plants whose leaves were wilted, in consequence of being eaten, where I pretty generally found, and *necessarily* "set foot upon a worm."

Next spring I intend transplanting some of my trees into edge rows, and the rest into a nursery. As soon as practicable I shall commence *operation*, the results of which I shall send you for publication. I would respectfully solicit those who are engaged in the business, to make notorious what they consider likely to forward this, yet to be, important branch of American industry.

Cayuga Co. Dec. 30, 1836. Cultor.

Inquiry—Mulberry Hedge.

Mr. Tucker—Will you, or some one through the medium of the Genesee Farmer, inform me whether the white Italian Mulberry, which has attained to the size of a man's thumb, will make a good hedge. Having a few thousand in a nursery, I am desirous to know if they will succeed in a hedge after having attained to that size, or whether cuttings will answer the purpose. I have heard it asserted that cattle and hogs are very fond of the leaves, and consequently keep them browsed down where they have access to them. The place where I want to plant is by the side of a lane where cattle and hogs would injure them if they are as fond of the leaves and twigs as it is represented they are; and likewise if they would not make a fence sooner by heading them down within a short distance of the ground.

Yours respectfully, Paul G. Davison.

Grand Blanc, Michigan, Dec. 15, 1836.

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Wheat will not produce Chess!

I have read the conflicting opinions with regard to Chess, and am surprised to hear that intelligent and observing farmers should for a moment suspect that wheat will turn to chess. The fact is there are but few farms free from chess. I came here five years ago and was determined to keep out cockle and chess as well as all other foul seed. The first crop of wheat I sowed contained some chess, but by sifting it was got clean; still at the next harvest there was considerable chess about the wet places; but recollecting that I had sown some grass seed in those places, I was determined to examine the grass seed, which was supposed to be clean. Upon sifting a half bushel of it there was two quarts of chess, sorrel, pig weed, and charlock seed. The chess has ripened and grown every year since. It is the custom with many farmers to feed screenings to their teams, while preparing their fallows, and then they wonder why so much chess is among their

wheat, as they say they sowed clean seed. Horses grind but very little chess, and the consequence is it germinates readily. It is asserted, but with what truth I do not pretend to know, that pigeons will fill their crops with chess if they find nothing more agreeable to their tastes, and in the course of their migrations, finding wheat lately sown, disgorge the chess, which immediately sprouts and grows, and then feast upon the wheat. If such be the fact, the question is answered why there is so much chess sometimes where clean seed was s own.

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Is Lye a Preventive of Smut?

Let those that doubt lye being a preveniive for smut, try the experiment—or, if they have log heaps upon their fallows where there is a liability to smut, observe the crop and show smut where such heaps were burnt, if they can. One great fault in sowing wheat is, farmers do not sow it thick enough, especially if sown late. People here are getting into the habit of sowing two or two and a half bushels to the acre, if sown late, be the soil what it may.

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Cold Feet.

As the season for cold feet has arrived, a word upon that subject may not be amiss. Those who are most troubled with cold feet, are not aware that dry stockings and boots that have remained in the cold air awhile, put on just before going out, prevent the feet from sweating, which is the great cause of cold feet. P. G D.

PETITION TO THE LEGISLATURE.

Mr. Tucker—Below is a copy of a petition to the legislature, in circulation in this and some of the adjoining towns. I send you the copy, that if the object meet your approbation, you may see our views on the subject, and unite with us in urging the farmers to circulate petitions in their respective towns, and forward them to the legislature.

To the Legislature of the State of New-York in Senate and Assembly convened.

The petition of the undersigned, inhabitants of the town of Skeneateles, in the county of Onondaga, respectfully shows:

That provision is made in the Revised Statutes for the taxation of dogs, and the payment to the owners of sheep which have been killed by dogs, of their damages, out of the funds so raised: That the objects of the law have been entirely defeated by the neglect of the assessors to comply with its provisions, and the same has become a dead letter: That your petitioners believe that the amount of the tax imposed by the law and the distinction made therein between dogs and bitches, have prevented the same from being enforced: That the raising of sheep has increased throughout the state to a great extent since the passage of the law, and has become one of the most important of the farming interests: That the number of dogs in the country is nearly double to what it was at the passage of the above law, and their increase will probably be still more rapid unless some measure is adopted to prevent it: That the destruction of sheep by dogs has become an alarming evil, and is constantly increasing, and in the opinion of your petitioners demands the renewed interference of the legislature. Your petitioners believe that an amendment of the existing law so as to tax all dogs fifty cents each; and to tax every dog more than one kept by any person or family one dollar, and abolishing the distinction between bitches and dogs, will remedy the evil; and will probably be enforced by the town officers.

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THE ROAD LAWS.

There was a bill introduced last winter by the chairman of the Committee on Roads and Bridges, to abolish the present system of repairing roads, and substituting a payment in cash, but as there was no petitions (or but few) on the subject, it could not be got through. It is important that there should be petitions sent in early in the session, if any thing is to be effected this winter on that subject.

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RESULTS OF EXPERIMENTS.

POTATOES, CARROTS, RUTA BAGA.

I have tried a few experiments on Potatoes, Carrots, and Ruta Baga this season, which I will state to you, and if you think any part of them will be of any benefit to my by brother farmers, you can publish them.

No. 1. Planted whole potatoes, midling size, in drills, 3½ feet between the rows, and 6 to 8 inches in the row between the potatoes.

No. 2. Planted half ones, same distance between rows, and sets as above, and took one rod more in length than No. 1 for a bushel when dug.

No. 3. Planted midling sized potatoes,cut in six pieces, and three pieces put in a hill, three feet each way; six hills had forty-seven potatoes, weighing 10¼ lbs.

No. 4. Planted the same size potatoes, cut once, and half put in hill; six hills had twenty-five potatoes; wt. 10 lbs.

No, 5. Planted small whole potatoes, and six hills had sixty-four potatos; wt. 12 lbs.

No. 6. Planted with same sized potatoes and cut in two, and both pieces put in a hill and six hills had sixty-eight potatoes; weight 12 lbs.

There was but a poor yield from any of my potatoes, and the difference in the hills weighed was continued through the whole rows in each case. My potatoes were injured by the drouth, and I think if the season had been good, that No. 3 would have been better than No. 6, as there was a much greater number in a hill, and about of a uniform size.

I planted a few carrots in a field as an experiment, but they were planted three feet between the rows, (they should have been only one foot;) the yield was at the rate of 270 bushels per acre, and in the same field I had an acre of ruta baga, which only yielded 75 bushels, being entirely destroyed by the drouth. I had a few carrots in my garden which yielded at the rate of 1600 bushels per acre. I am quite in favor of carrots as a field crop, provided the soil is deep. I dug them with a plough, turning out one row at a time and then following and cutting the top before ploughing the next row. The ground I planted had not any sand in it and was naturally moist. I am trying an experiment with oil-meal, carrots, and ruta baga, to test their relative value as feed for milch cows. I may at some future time give you the results. S. P. R.

Skeneateles, Jan. 9, 1837.

Reproductive Powers of Nature.

One of the most striking instances of design in the kingdom of Nature; and perhaps the one which most strongly marks the benevolence and wisdom of the Creator, so far as the lower orders of creation are concerned; is found in the astonishing multiplication of the inferior races of merely organized or vitalized beings, a fecundity which places the reproductive sources of nature in the clearest light.

Vegetables seem to have been expressly designed for the conversion of inorganic substances, such as the minerals, salts, water, and gases, into a material fit for the support of a higher and more complicated race, which could not have subsisted on these primitive elements. The insensible grades by which the whole system of nature is marked, from the least distinctly organized vegetation up through the insect and animal races to man, seems to prove that a more refined and delicate organization requires a corresponding difference in the nature and preparatory processes the food must have passed. As a necessary consequence the lowest classes, whether in a state of mere organization, or of vitality, should be the most numerous, and furnished with corresponding reproductive powers, a deduction in most cases, perfectly agreeing with the fact. The countless multitudes of the infusoriæ and medusæ, creatures that seem formed out of the water, and to derive their subsistence solely from it, furnish an illustrarion of this truth, as well as the whole vegetable race which receive their nourishment principally from the same source.

We have collected from various sources some instances of this reproductive power in the vegetable, insect, and animal departments of nature; instances which illustrating as they do, the boundless resources of this part of the creation are worthy the attention of all.

Humboldt, from personal examination, in most cases, has estimated the productive power, or natural produce of wheat in various countries as follows;—in Germany and Poland six for one; in Hungary ten; in Great Britain 18; in the United States 16; in North Mexico 16; in equinoctial Mexico 24; in New Granada 30. Wheat however has in some instances produced 80 or 100 for one. Barley has given 130, and oats 140 for one. In England in 1824 a single grain of oats produced 19 stems, and 2945 grains. A single grain of wheat sown in a garden at Bath in Sept. 1819, had in August 1820 produced 73 stalks, and yielded 7445 grains. Mr. Miller, a distinguished gardener, by repeated subdivisions, obtained from a single seed of wheat 500 plants which yielded 21,109 ears, and about 576,840 grains, weighing 47 pounds. In a poppy 32,000 seeds have been counted; and a good bearing apple tree will produce from 30 to 50 thousand seeds annually. Of trees, some species of elm produce seeds the most abundantly. A writer on natural History speaking of this tree says,—"it has been calculated that one elm in the course of its existence has produced 1584 millions of seeds; and each of these seeds has the power of reproducing as many. At this ratio, the second generation, if every seed vegetated as prolifically, would amount to two trillions 510,056 billions. But the third descent would be 14,658 quadrillions 728,040 trillious. The seeds of this third generation from one elm, would be enough to stock the surface of all the planets in the system, and of many more." There is however no single vegetable which at once gives birth to such an infinite number of seeds as some of the species of fungi or mushrooms. These are known by the name of *puff-balls*, and when ripe and dry, the seeds, or seminal principles, are thrown off in such multitudes as to resemble puffs of smoke. Fries and Lindsay have estimated the number from a single plant at not less than ten millions.

Insects are scarcely less prolific than vegetables. The numbers produced in a single year from some species is truly astonishing. The queen bee will lay in a season from six to ten thousand eggs. The female of the termites or white ants of Africa, when about to found a colony finds her abdomen enlarged to nearly two thousand times the rest of her body, and she continues to deposit her eggs in almost countless numbers at the rate of about 70 a minute, or 100,000 in 24 hours. The number of her eggs in a season, has been estimated by some entomologists at upwards of thirty three millions! When the female is in a gravid state her size exceeds that of her husband by more than one thousand times. The myriads of caterpillars that sometimes show themselves on our forest and fruit trees, and the devastating millions of the locust, show this same facility of reproduction. The descendants of a single aphis or plant louse, will in a season amount to millions.

Fishes also exhibit the reproductive power of nature in a no less striking degree; and in their case the means of correctly estimating this power fortunately exists. Mr. Harmar, an Englishman of science and perseveranee, is the person to whom the world is indebted for the correction of Luenbroeck's exaggerated estimates. Mr. Harmar first weighed the roe of the respective fishes with all possible accuracy and then counted the eggs in a certain number of grains. A shrimp had 6,807 eggs; a perch 20,582; a smelt 30,991; a teuch 350,482; a roach 113,841; a mackerel 546,681; a flounder of 24 ounces weight 1,357,400; and a codfish 3,687,760. Luenbroeck estimated the eggs in the roe of the last at nine millions. Some fishes bring forth their young alive. Of these the bleuny, not more than ten inches long, produces alive from 3 to 400 at a time.

A pretty fair manner of judging of the means of multiplication possessed by any part of creation is found in the numbers existing at the same time. According to this rule birds will rank high in the scale of fecundity. Single instances which show this power are not wanting. A short time since an English lady of rank took it into her head to hatch an egg in her bosom, and accoomplished it successfully. The chicken proved to be a fine pullet, was much attached to its mistress, and in the course of two years furnished her with more than 300 eggs. The purple grackle or blackbird of this country, collects, as

every one is aware, into flocks, amounting in the fall of the year to the number of fifty or a hundred thousand. The passenger, or common wild pigeon of the United States is another proof of the multitudes a season or two will produce. Wilson, one of the best authorities, in his great work on American birds says, "of one of these immense flocks, let us attempt to calculate the numbers, as seen in passing from Frankfort to the Indiana territory. If we suppose this column to have been one mile in breadth, and I believe it to have been much more, and that it moved at the rate of one mile a minute, four hours, the time it continued passing, would make the whole length 240 miles. Again, supposing that each square yard of this moving body contained three pigeons, the square yards multiplied by three, would give 2,230 millions 272 thousand pigeons; an almost inconceivable multitude, yet probably far below the actual amount." The correctness of this last remark of Wilson's any one will apprehend, who has seen those immense breeding places of these birds, called roosts, in our forests; who has seen the trees for miles in distance literally loaded with nests; who has listened to the ceaseless din of their voices, and at the distance of miles heard the thunder of their millions of wings continually rising like the roar of many waters. A similar instance of the multitude of birds which will at times congregate together may be found in Hinder's voyage. The captain says he saw "a stream of stormy petrels, which was from 50 to 80 yards deep, and 300 yards or more broad. The birds were not scattered, but flying as compactly as the free use of their wings would allow, and this stream of petrels for a full hour and a half, continued to pass without intermission at a rate little inferior to the swiftest of the pigeon Now taking the stratum at 50 yards deep by 390 in breadth, and that it moved at the rate of 30 miles an hour, and allowing nine cubic inches of space to each bird, the number would amount to 151 millions and a half."

As we ascend in the scale of creation and reach the maumalia and higher orders of quadrupeds, this power is less distinctly marked, though it is far from being extinct. As to be expected, however, it is found principally among the smaller animals, which are known at times and under favorable circumstances to multiply to a prodigious extent. The farmers of Western New-York have not forgotten the years when the forests were alive with squirrels, and the harvests suffered in conseqnence to an alarming degree. 95 years ago, when the population of Pennsylvania was but a cypher compared with its present amount, such were the ravages of the squirrel, that a reward was offered for their heads by the colonial government, and in a single year 640,000 were presented and paid for. The brown or Norway rat in half a century has overspread the world. It has produced 20 at a litter and three times a year. At Gotha, north of the Baltic, they became a few years since such a nuisance that the city offered a bounty for them, and in one year 80,000 were killed and paid for. On the Isle of France it has increased to such an extent as to threaten the entire destruction of the sugar cane, while birds were eqally destructive to the rice. The government offered a bounty, and in a little more than half of the Island, in one month, 830,473 rats' tails, and 938,549 bird's heads were paid for. Rabbits breed so rapidly that in 4 years a single pair might be the ancestors of a million. The number of some kinds of animals taken care of by man may be inferred from the fact that Europe alone feeds more than 200 millions of sheep. The common grennd mole in some seasons become destructively numerous. In three weeks, on 16 acres, Buffon caught 1,300 moles; and a Dutch farmer in a single year, between five and six thousand.

Man, though far outdone in the powers of multiplication by the lower orders of creation, has not lost all traces of the reproductive energy of his nature. Of this the astonishing increase of the population of the United States is a sufficient proof, and of single instances we may refer to the peasant on the estate of Count Feodorff in Russia, who has been the father of ninety-two children, and to the Irish farmer, whose wife had presented him 43 children at 16 births. W. G.

The Importance of Improving Common Roads.

No. I.

That the common roads of this country admit of improvement, and greatly need it, we think will not be disputed. Good common roads, wheresoever they exist, are among the most valuable attainments of civilized society. They are so, because they are common property, intended for the benefit of all—needed and greatly used by nearly all classes of community. The liberty of practising locomotion is one of the natural rights of man, and it is essential to his interest and enjoyment. Accordingly every free citizen is to a greater or less extent, a traveler; and for whatsoever purpose, or in whatsover manner he travels, whether as a pedestrian or on horseback, whether in a humble carriage or in a splendid coach, his interest is much better subserved by a good road, than by a bad one. The proposition here advanced is so nearly self-evident, as scarcely to admit of elucidation. For the gratification of lawful and innocent desires, traveling is not unfrequently resorted to as an exercise of pleasurable amusement. But traveling can be pleasurable only on a good road. To be dragged slowly along, as one must be who travels in a carriage on a bad road—to sink, at one time in a mud-hole—at another, to jolt over stones, and other, obstacles lying in the way, can be no other than a laborious and painful exercise, requiring great patience and self denial. Traveling is often a useful exercise to invalids, and not unfrequently is one of the most successful means of restoring impared health. But for the accommodation of this class of travelers, good roads are indispensable. Although the use required of roads for the purposes thus enumerated, is of minor importance, yet it is by no means undeserving of consideration. Roads are chiefly needed for business, and business men. They are needed for domestic purposes. Almost every farmer or citizen house-holder, need good roads about him, for the transportation of commodities required for his own use. But for commercial purposes, the utility of good roads is inconceivably great. Few, it is presumed, give themselves the trouble to compute the difference in expense between the the transportation of commodities on good roads, and on bad ones. In order to compute this difference, it will be necessary to take into consideration several things, such as the time required in each of the cases, for going to market, and returning from it—the amount of burden transported—damages to team and carriages, together with the personal safety, comfort, and good cheer of the agent who goes to drive the team, and transact the business. Not unlikely, if the road be good, the journey may be performed in half the time, or less then half, that would be required to perform it on a bad road—the amount of burden may be trebled if not quadrupled—the team will suffer less—little or no damages will be done to the carriage, while to the agent, his trip to market and back, will be a delightful exercise. But if his journey is to be performed on a bad road, a very different picture is presented. The journey although in itself forbidding, is undertaken as a work of necessity. The man goes, but he moves at a slow pace, although he takes with him but a small load. The unfortunate animals composing the team are compelled to perform hard labor, while the driver is obliged to keep a constant look-out to choose his way, shun mud-holes, and other dangerous places. Thus the journey is commenced, and its subsequent history is already told. At great expense, and with much fatigue to man and beast, accompanied, perhaps with other disasters, a small amount of property is taken to market. The picture here given of transporting commodities on a bad road is a living one, representing a scene which in this section of the country, is of daily occurrence. We think it will require but little reflection to be convinced that, in every civilized community, good common roads should be regarded as primarily important. The use of such roads is not and cannot be superseded by canals and railways. These costly thoroughfares may be rendered eminently useful in their place, operating as do the great arteries of animal bodies, but their numerous ramifications, and the countless veins which are essential to the health of the body, must be looked for chiefly in the common roads of the country. It should be known, that the policy which provides for making good common roads, is identical with that by which canals and railways, are sustained. It should be known too, by the proprietors of these splendid achievements, that their interest greatly depends on having good roads, connecting them with all the interior sections of the country. The latter will operate as handmaids to the former, supplying passengers, and commodities for transportation. While thus pleading the cause of roads we are speaking as we candidly believe of attainments fully within our reach. We can have good roads it is believed; we can have them at an expense considerably less than that to which we are subject, under the system of road policy now prevailing in this state. We appeal now to our fellow citizens—shall we not have good roads? Is not the object sufficiently important to call forth the wisdom, and the energies of an enlightened and enterprising community? D. B.

Mr. Whitmarsh's Mulberry Seed.

MR. TUCKER—Please give the following statement an insertion in your paper, and oblige yours, W. W. B.

The conduct and motives of Mr. Whitmarsh in the sale of mulberry seed, having been severely animadverted upon, in this and one or two other of our public journals, I deem it an act of justice in me to Mr. Whitmarsh to state the result of the purchase and sowing of a paper of the seed advertised by him as Chinese Mulberry, last spring. Others who have purchased this seed have drawn different conclusions from myself. I will barely suggest that possibly they may have been mistaken as to the character of the plants produced from it, and the quantity of the seed in a paper. The seed I received I am satisfied was the *Chinese Mulberry*, though not that *variety* of it which is generally known in this country as the *Morus multicaulis*, originally from Manilla. The plants produced from this seed resemble in every respect those raised from seed sent into this country several years since by some missionaries residing in Canton, and which by way of distinction, D. Stebbins, of Northampton, calls the *Canton Multicaulis*. I had a number of plants of the Canton raised from cuttings obtained from D. Stebbins, last Spring, and there was an exact resemblance between them and these plants from the seed of Mr. Whitmarsh. The leaves of the *Canton variety* are about two thirds the size of the *Manilla multicaulis*, but thicker and closer set upon the stems: and are supposed by some to be more valuable than this last for feeding silk worms. If such was the character of the plants obtained by others from the seed procured of Mr. Whitmarsh, they need only regret that they obtained so few from the seed sown. In this respect I seem to have been more fortunate than my neighbors. From the paper I obtained 244 plants. It is true I took extra pains in the preparation of the soil and seed, and watered the ground every day in dry weather till the plants came up. In regard to the *number of seeds* in the paper I could not state with precision, for I did not count them; but think from the *number* and *length* of the rows sown and the *distance* the seeds were dropped apart in the rows, there must have been between *three and four thousand*. There were 15 rows, making an aggregate of 315 feet; the seeds were carefully dropped about 1¼ inches apart, occasionally two dropped together, so that I should think it would average about eleven seeds to the foot. According to this there would have been 3465 seeds in the paper, and I am pretty confident that if all the seeds had vegetated, I should have had upwards of 3000 plants.

I frankly admit that I, with others, was disappointed in the character of the plant produced from the seed, supposing it would be the same as the *Multicaulis*, not knowing then that there was any but this *variety* of the Chinese Mulberry; for such I consider the *Morus multicaulis* from the Phillippine Islands, a *variety* of the *same species* with that to which the Canton and these seedlings belong; differing in the size, and shape of the foliage but bearing with them, in other respects, the same specific botanical character; and that, as it is only a *variety*, there is, therefore, no certainty of obtaining precisely the same plant from the seed. This seems to be verified by facts. Two cases are reported, one by Mr. Joseph Davenport, in a recent letter to the writer, and the other by D. Stebbins,

(see Silk Culturist for December,) in which the plants raised from the seed of the *Morus multicaulis*, differed materially from the parent tree, in the shape and size of the leaves.

In conclusion, I cannot bring myself to believe that Mr. Whitmarsh intended a deception and fraud upon the public in the sale of his seed; believing that *a regard for his reputation, and personal interest*, if nothing else, would have dictated an honest and honorable course; but at the same time must express my regret that he did not in the *first instance*, when he authorised his agent to advertise the seed, before any of it was sold, apprize the public of the *kind* or *variety* of Chinese Mulberry he offered for sale, that no one should have been disappointed.

W. W. BOSTWICK.

Hammond's Port, Jan. 6, 1836.

Making and Preserving Cheese.

1. The goodness of cheese, as well as butter, depends much on the quantity of milk. The season, and particular way of making it, also have a very considerable influence upon it in this respect—more prehaps than the material of which it is prepared. We shall, briefly notice these circumstances.

2 The best *season* for this purpose is from the commencement of June till the close of September. There is no doubt, however, but that good cheese may be made throughout the year, provided the cows be well fed in the winter. It is also worthy of attention that milk abounds most in caseous matter during the spring, and with the butyraceous in summer and autumn.

3. The Cheshire cheese, made in England, is celebrated for its excellence, and we shall give the mode of making it adopted by the Cheshire dairymen.

4 The thermometer of a Cheshire dairy-woman is constantly at her fingers' ends. The heat of the milk when set, is regulated by the warmth of the room and the heat of the external air; so that the milk may be the proper length of time in sufficiently coagulating. The time is generally thought to be about an hour and a half.

5. The evening's milk—of suppose twenty cows—having stood all night in the cooler and brass pans, the cheese maker, (in summer,) about six o'clock in the morning, carefully skims off the cream, which is put into a brass pan While the dairy-woman is thus employed, the servants are milking the cows, having previously lighted a fire under the furnace, which is half full of water.

6 As soon as the night's milk is skimmed, it is all carriedinto the cheese tub,except about three quarters of a brass pan full, (three to four gallons,) which is immediately placed in the furnace of hot water, in the pan, and is made scalding hot; then half of the milk thus heated is poured to the cream, which, as before observed, had been already skimmed into another pan.

7. By this means all of the cream is liquified and dissolved, so as apparently to form one homogeneous or uniform liquid, and in that state it is poured into the cheese-tub. But before this is done, several bowls or vessels full of new milk or prehaps the whole morning's milk, will generally have been poured into the cheese-tub.

8. In some celebrated daries, however they do not, during the whole summer, heat a drop of the night's milk; only dissolve the cream in a brass pan floated or suspended in a furnace of hot water. In other dairies, they heat one-third, one-half or even more than that of the previous night's milk. But in all, they are careful to liquify or melt the cream well before it is mixed with the milk in the tub.

9. Whatever may be the general eustom in any given dairy respecting the heating of the milk, the practice varies according to the weather. It is generally on poor clay lands that the milk m st requires warming. On good rich soils, it will not bear, much heating; at least by so doing, the process of cheese-making is rendered more difficult.

10. The process of making cheese is much more difficult than that of making butter. The quantity depends more on the mode of performing that operaiton than on the richness of the milk. The temperature at which the milk is kept before it is formed into cheese, and that wich is coagulated, or turned into curds, are objects of the greatest importance in the management of a chesse dairy. The temperature of the milk ought not to exceed 55, nor to be less than fifty degrees of Fahrenheit's thermometer. For coagulating, it should be at 90 to 95.

11. If the milk is kept warmer than 55, it will not throw up the cream so well as the lower degree. It is also subject to get sour and give a bad taste to the cheese. If it be allowed to be much colder than that, it becomes difficult to separate the curd from the whey, and the cheese made from it will be soft and insipid.

12. If the curd be coagulated too hot, it becomes tough; much of the butyraceous matter will go off with the whey; and the cheese will be hard and tasteless. The themometer, should therefore always be employed in every dairy. Although the dairy-woman may at first be prejudiced against it, yet it is evident utility, and great simplicity, will eventually reconcile them to its use.

13. The greatest care should be taken thoroughly to extract every practicle of whey from the curd. No cheese will keep well while any whey remains, and if any part becomes sour, the whole will acquire a disagreable flavor. Similar effects are produced by the use of an immoderate quantity of rennet; it is also apt to blow up the cheese full of small holes. This last effect will be produced if it be allowed to remain too long on one side.

14. A very experienced dairy-man is of opinion, that from nine to twelve months' time is requisite to ripen cheese of from fourteen to twenty pounds weight. It is laid down as a rule, in the process of making cheese that the hotter it is put together, the sounder it will be: and the cooler, the richer, and more apt to decay. It should be kept in an airy but not in a cold place. If the moderately dried leaves of the young twigs of the common birch tree be placed on the surface or sides of cheeses, they will be found very serviceable in preventing the depredation of mites.

15. It is a good practice to strew a little dry moss, or fine hay, upon the shelves on which the cheeses are laid; for when new, they sometimes adhere to the board, and communicate a dampness to it that is prejudicial to the other side of the cheese, when turned. It also promotes their drying.

16. At a more advanced stage they may be laid upon straw; but ar first, it would sink into, and deface the surface. To which we will add, as general maxims—that great cleanness, sweet rennet, and attention to the heat of the milk and breaking the curd, are the chief requites in cheese-making. —[Farmers' School Book.]

Turnep Fly.

At the monthly meeting of the *Zoological* Society held in London on the 30th of June last, a very interesting paper was read by Mr. Yarrel, on the economy of an insect destructive to turneps. The following sketch of its contents, which we have no doubt will be found interesting to the readers of the Farmer and Gardener, we copy, substantially from the Farmer's (London) Magazine.

In June of last year the *yellow fly* was seen upon the young turneps. It was remembered by some farmers that this was the fly which prevailed in 1818, and which was followed by the caterpillars known by the name of the *blacks*. The eggs being deposited by the perfect insect in the leaf of the plant, the black caterpillar, or turnep-pest, speedily makes its appearance, feeding on the soft portions of the leaves of the turneps, and leaving the fibres untouched; and finally, casting its black skin, and assuming one of a more slaty or grey color, it buries itself in the earth. Lodging there, it forms for itself, from the soil, a strong oval cocoon; from which some of the earlier broods pass almost immediately into the perfect state, filled with *ova*, and ready quickly to supply another generation of destroyers. So complete and rapid was the destruction in some instances in July 1835, that a whole field was found, in two or three days, to present only an assemblage of skeletonized leaves, and this too, when the turneps had obtained a considerable size.

The insect, whose proceedings have been thus briefly noticed belongs to the *Hymenopterous* family *Tenthredinidæ:* it is the *Athalia Centifoliæ*, a species first noticed by *Panzer*. By their repeated broods the devastation was continued for so long a time, that even the third sowing did not, in all cases, escape destruction: the turnep became pithy and of little value, and it was necessary to import the root largely from the continent to supply the deficiency of the home crop in Btitain.

The remedial measures adopted on a former visitation were, 1st—the turning into the infested fields of a large number of ducks, which greedily devoured the caterpillars as they were brushed from the leaves by a boy with a long pole—2dly, the passing of a heavy roller over the ground at night, when the caterpillars were at their feed, and—3dly—the strewing of quick lime by broadcast over the fields, renewing it as often as it was dispersed by the wind. The latter mode was generally considered as the most effectualpreservative.—*Farmer & Gardener.*

FLOUR.—Comparative statements of imports of flour in the City of Boston, for the years 1835 and 1836.

	1835.	1836.
From New-York, Albany & Hudson,	215,377	249,817
Philadelphia and Delaware,	17,387	39,434
Baltimore	79,349	61,626
Alexandria Fred'cksburg, Georgetown, Richmond, Norfolk and Petersburg,	85,794	55,384
New Orleans,	7,033	10,880
Other Ports	3,629	1,456
	408,569	418,597

It will be observed that the imports of 1836 are greater than those of 1835, by 10,028 bbls. The foreign exports the past year, have been much less than for many years previous.

GRAIN.—There was imported within the year 1835, 948,115 bushels of Corn 354,113 bushels of Oats, 23,649 bushels of Rye. In 1836, 1,679,951 bushels of Corn, 352,192 bushels of Oats, 45,054 bushels of Rye. It will be seen that there is an excess in the importation of Corn this year over the last of 731,836 bushels.—*Boston Courier.*

☞ STATE AGRICULTURAL CONVENTION.

☞ In pursuance of a resolution adopted at the last Agricultual Convention, we hereby give notice that a State Agricultural Convention will be held at the Capitol, in the city of Albany, on the first Thursday of February next, at 4 o'clock, P. M. at which "all persons are desired to attend who take an interest in agricultural pursuits."

D. S. DICKINSON, } *Secretaries.*
J. J. VIELE, }

Agricultural School.

AN election for thirty Directors of the New-York State Agricultural School, will be held at the Capitol in the city of Albany, on the 15th Feb. next, at 4 o'clock, P. M.

Jan. 5, 1837.

J. BUEL. L. F. ALLEN, H. YATES. J. DELAFIELD, } Commmissioners. { J. P. BEEKMAN, J. CENTER, W. CUNNINGHAM.

Subscriptions to the stock of the Company will be received by the several commissioners until the day of election.

jan 14 f3

To be Sold,

A VERY excellent Farm, beautifully situated, adjoining the village of Ancaster, near the head of lake Ontario, Upper Canada, about 7 miles from Hamilton and Burlington Bay; consisting of 200 acres (40 chains wide by 50 chains deep.) About 120 are in cultivation. There is a comfortable house, a well, &c. frame barn, a stable, wagon house separate from the barn, a good old orchard in full bearing, and the farm is well watered, having the Ancaster mill stream passing thro' it, and affords a sufficient fall for a flour mill. As two of the surveyed lines of the great western rail-road pass through the farm, the probability is that many village lots may be sold on the line adopted. Apply to the proprietor on the premises, or to the subscriber in Rochester.

jan 14 6t LUTHER TUCKER.

For Sale,

THE valuable Farm formerly owned by General Charle Thompson, situated in the town of Ovid, Seneca county; 3 1-2 miles south west of the village of Ovid, extending to the Seneca lake, containing about 370 acres of land; half of it improved, under a high state of cultivation and in first rate repair the remainder valuable timbered land, a large proportion of it white oak. On the premises is a large well finished two story dwelling-house, wood-house, 4 tenant houses, 3 grain barns, with sheds and hay barns, &c.; the stock in which is included. 700 Saxony sheep will be sold with the farm if desired. For further information inquire of ASA PAGE, Esq. Schenectady; DAVID HUDSON, Esq. Geneva; or of the subscriber on the premises.

WM. R. SCHUYLER.

jan 14 4t

[*From the American Gardener's Magazine.*]

Cultivation and Management of the Raspberry.

Raspberries are a very useful fruit for the table, for preserving, for making jams, &c. and continue a long time in bearing, and are raised from suckers and layers. They should be planted in a piece of ground by themselves, at the distance of about six feet from row to row and four feet apart in the rows, either in angles—with three plants, or singly; but as this is altogether a matter of taste in the planting, the operator may please himself, for either of the methods will do equally well; all that is necesary is not to neglect giving them the distances proposed. The ground should be first well dug and manured, before the raspberries are planted; in selecting them, always choose the strongest and finst growth that spring up from the sides of the old plants, where they have been standing for some years; or encourage the strongest plants that come out betwixt the rows after digging, which should be done annually. In digging the roots are frequently cut with the spade, which will occasion a great number of small plants to come up; of these select the strongest and finest, and hoe up all superfluous ones: some cultivators prefer laying down some of the strongest outside growth in the month of April as by the following autumn they will make fine roots and may be planted out in the plat of ground where they are intended to remain. These will not be liable to throw up *suckers* as those which are produced from *suckers.*

In the planting out of fresh plants of raspberries, preference should be given to damp or moist weather, as the roots are very tender and liable to be hurt when exposed to a dry air. If, however, they are planted in dry weather take care to moisten the roots with water, and cover them with old bast mats, or leaves, while they remain out of ground. In planting, open a trench with the spade along the line where the suckers or layers are to be set out, cut off a portion of the small fibrous roots, preserving all the stronger ones; put them into a trench, and cover them with some earth; then have them well watered and throw the remainder of the earth over them, letting them remain till you have finshed planting the whole ground. Then, where you first began to plant go over and tread the ground with your foot along each of the trenches and in the same direction as you planted, and level all the ground smooth and even—taking off any stone or rubbish that may be left on the surface. In dry weather the plants should be watered two or three times a week till they have taken root. It will be necessary to put stakes to the strong growing sorts, to tie them up to, which will prevent their being broken by the wind, or beaten down by the rain.

In November or before the ground freezes up, the old bearing wood should be cut out, being of no more use as the fruit is always produced from the wood of the preceding year, therefore take out all the wood that bore fruit this year and select four or five of the most vigorous and strong shoots of this year's growth to bear fruit the ensuing season: shorten the tops of each according to their strength; and the most sure way of preserving them through the winter is to lay them down in straight rows covering them over about six or eight inches deep with the soil. As a great many of the strongest canes are frequently broken in laying them *down*, I would recommend the placing of four or five spadesfull of soil close to the stool, so that the shoots can be easily brought over it in a rounding position; this will be found to answer the purpose so well, that seldom if ever any breaking will be made in laying them down.

In the spring they must be uncoverd as soon as the frost leaves the ground and immediately tied up to the *stakes*—remembering that delays are dangerous.

An old plat of raspberries will continue in bearing six or seven years, by which time a fresh plantation should be made to succeed them. The young plants will bear some fruit the first year, and come into full bearing the second after planting. If they are sufferd to remain longer without renewing than the time specified, they will degenerate, and bear *small fruit:* frequent hoeing and cleansing between the rows is a very necessary process, and should not be neglected. The following are the sorts best worth cultivating:—Nottingham Scarlet, Smooth Cane, White Antwerp, Red Antwerp, Smooth Cane Double bearing, Large Red, Barnet, Early White, Large White, &c. &c.

Messrs. Thomas & William Mason, Charlstown Vineyard, have a collection of fine sorts for sale.

I am yours, &c. JOHN W. RUSSELL.

Mount Auburn, Cambridge, Dec. 12th, 1836.

More Economics.

How to save expense in clothing. Purchase that which is at once decent, and the most durable; and wear your garment despite the frequent changes of fashion till it becomes too defaced to appear decent, then turn it and wear it thenceforth as long as it protects the body. A blue coat is as warm after fashion requires a green one as it ever was. A red shawl in fashion to day, is as warm as a black one which fashion requires to morrow.—A few years hence your fame will not depend upon the style, color or quality of the broad cloth you wear in 1836.

How to save oil and candles. Use sun-light two hours in the morning, and dispense with lamps and candles two hours after nine P. M. The morning sun-light is much cheaper than evening lamplight.

How to save time. Have a place for every thing and when you have done using it, return it to its place. This will save much time in hunting after articles which are thrown carelessly aside and lay you know not where.

How to save expense in traveling. Cultivate the bump of inhabitiveness; and if you want to go a mile or two, walk rather than hire an establishment at the livery stable. This will be for the health of your body, as well as a security of your purse from languishment.

How to save in little matters. Procure a book and keep an exact account of all your expenditures. At the expiration of every three months, review the account and see how much you have expended in four penny and nine penny items which you could have done without as well as not. Then see to it that each ensuing quaters shall be minus just those things. In many cases the aggregate would be found more considerable than you would be aware of, unless you kept such an account.

How to save your property should your house be consumed by fire. Get insured. No one is entitled to much charity after he suffers loss, if he neglects so easy a method of securing himself.

How to leave your family a subsistence if you should be taken suddenly away. Get your life insured for such a sum as would place them in comfortable circumstances after your decease.

HINTS ON EARLY EDUCATION.

[*From Abbot's Magazine.*]

1. Judicious mothers will always keep in mind that they are the first book read and the last laid aside in every child's library. Every look, word, tone and gesture, nay, even dress, makes an impression.

2. Remember that children are men in miniature—and though they are childish and should be allowed to act as children, still all our dealings with them should be manly though not morose.

3. Be always kind and cheerful in their presence—playful, but never light, communicative, but never extravagant in statements nor vulgar in language nor gestures.

4. Before a year old entire submission should be secured; this may be often won by kindnesss, but must sometimes be exacted by the rod, though one chastisement I consider enough to secure the object. If not, the parent must tax himself for the failure, and not the perverseness of the child. After one conquest, watchfulness, kindness and perseverance will secure obedience.

5. Never trifle with a child nor speak beseechingly to it when it is doing any improper thing, or when watching an opportunity to do so.

6. Always follow commands with a close and careful watch, until you see that the child does the thing commanded—allowing of no evasion nor modification, unless the child ask for it, and it is expressly granted.

7. Never break a promise made to a child, or if you do, give your reasons, and if in fault, own it, and ask pardon if necessary.

8. Never trifle with a child's feelings when under discipline.

9. Children never ought to be governed by the fear of the rod, or of private chastisements, or of dark rooms.

10. Correcting a child on suspicion, or without understanding the whole matter, is the way to make him hide his faults by equivocation or a lie, to justify himself—or to disregard you altogether, because he sees that you do not understand the case, and are in the wrong.

11. When a child wants that which it should not have, or is unwilling to do as the parent says, and begins to fret, a decided word spoken in kindness but w th authority, hushes and quiets the child at once; but a half yielding and half unyielding method only frets and teases the child, and if denied or made to obey, ends in a cry.

12. It is seldom well to let the child "cry it out," as the saying is. If put into a corner or tied to your chair, it should not be to cry or make a noise. Indeed, crying from anger or disappointment should never be allowed. A child soon discovers that its noise is not pleasant and learns to take revenge in this way. If allowed to "vent their feelings" when children, they will take the liberty to do so when men and women.

13. Never allow a child to cry or scream on every slight occasion, even if hurt, and much less when by so doing it gratifies a revengeful or angry spirit. This should be especially guarded against in infants of ten, twelve, or eighteen months old, who often feel grieved or provoked when a thing is denied or taken from them.

14. Never reprove a child severely in company, nor make light of their feelings, nor hold them up to ridicule.

15. Never try to conceal any thing which the child knows you have, but by your conduct teach him to be frank and manly and open—never hiding things in his hands nor slyly concealing himself or his designs.

16. Kindness and tenderness of feeling towards insects, birds, and the young, even of such animals as should be killed if old (excepting poisonous ones) are to be carefully cherished.

17. I am pleased with such children as allow those roses and flowers that blossom on the Sabbath to remain on the tree to praise their Maker in their own beauty and sweetness. "This is the incense of the heart, whose fragrance smells to heaven."

MILKING COWS.

A writer in the Scotch Farmer's Magazine, gives the following *Directions to the Dairy Maid.* "Go to the cow stall at 7 o'clock; take with you cold water and a sponge, and wash each cow's udder clean before milking; dowse the udder well with cold water, winter and summer, as it braces and repels heats. Keep your hands and arms clean. Milk each cow as dry as you can, morning and evening, and when you have milked each cow as you suppose, dry, begin again with the cow you first milked, and drip them each; for the principal reason of cows failing in their milk is from negligence in not milking each cow dry, particularly at the time the calf is taken from the cow. Suffer no one to milk a cow but yourself, and have no gossiping in the stall. Every Saturday night give an exact account of the quantity of milk each cow has given in the week."

☞ Might not warm water, particularly in winter, be best? perhaps brushing the bag with a soft brush would answer a good purpose.—N. E. Far.

Silk Reel.

The grand desideratum for the farmer and for general use—*a perfect silk reel*—constructed upon so simple a plan that every body will wonder why it has not always been in use. has been attained. These reels may be hadat $6 a piece, and it is believed they will ensure the home supply of silk—that they will be to the silk manufacture what the power loom was to the cotton, and ensure its triumph. The difficulty heretofore has been that the reel has been so complicated and costly, that farmers, &c. have not been able to reel the cocoons on their farm, and by remaining on hand or if carried away, they have been damaged, and their value thereby diminshed, if not destroyed. The simplicity and economy of this machine will enable almost every family in the country to avail themselves of its advantages. Orders for their manufacture received at 187 Broadway.—*N. Y. Com. Adv.*